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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/024,020	12/21/2001	Gin Liu	213202.00355	3692
27160	7590	08/16/2005	EXAMINER	
KATTEN MUCHIN ROSENMAN LLP			GHULAMALI, QUTBUDDIN	
525 WEST MONROE STREET			ART UNIT	
CHICAGO, IL 60661-3693			PAPER NUMBER	

2637

DATE MAILED: 08/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.		Applicant(s)	
	10/024,020		LIU ET AL.	
	Examiner		Art Unit	
	Qutub Ghulamali		2637	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 21 December 2001.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### *Specification*

1. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

The abstract of the disclosure in the instant case exceeds the range of 50-150 words.

### *Claim Rejections - 35 USC § 112*

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 27 and 29 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

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Claims 27 and 29, are narrative in form and do not contain positively recited steps of a specific process. Note that method claims should set forth a series of steps in the active tense in an instruction-like manner thereby reciting an actual method. The claim only recites a **single step** without any additional steps delimiting how its use is actually practiced. Dependent claims (if applicable) should further limit base claim by reciting additional method steps in a likewise fashion. Ex parte Erlich 3 UPQ 2d 1011 at 1017[6].

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

4. Claim 1 recites the limitations "said first end" and "the stored measurement" in lines 6-7 and 8-9 respectively. There is insufficient antecedent basis for these limitations in the claim.

Similarly, claim 27, recites the limitations "the noise N (f)" and "the signal to noise ratio" in line 2. There is insufficient antecedent basis for these limitations in the claim.

Similarly, claims 28, 29 and 30, recites the limitations "the noise N (f)" and "the signal to noise ratio" in lines 2 and 3 respectively. There is insufficient antecedent basis for these limitations in the claim.

Similarly, claim 28, recites the limitations "the noise N (f)" and "the signal to noise ratio" in line 2 respectively. There is insufficient antecedent basis for these limitations in the claim.

### ***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1, 3, 5-10, 12, 14-30 are rejected under 35 U.S.C. 102(e) as being anticipated by Levin (USP 6,130,882).

7. Regarding claim, 1, 19, 20, 23, 24 Levin discloses a method of retrieving channel

characteristics for a discrete multi-tone communication channel comprising:

at initialization, determining and storing channel frequency response and noise measurements at

a Central Office (CO) end of the channel (abstract; col. 1, lines 37-42; col. 3, lines 60-63);

at show time, determining and storing a signal-to-noise measurement at said first end (col. 4, lines 1-9; col. 8, lines 10-25);

at a CPE (remote location) end of the channel, retrieving at least one of the stored measurements (col. 8, lines 10-15); and

receiving data at the CPE end at a rate in dependence upon the one or more of the retrieved measurement (col. 2, lines 50-61, 66-67; col. 3, lines 1-4).

As per claim 10, the steps claimed as circuit (apparatus) is nothing more than restating the function of the specific components of the apparatus as claimed and therefore, it would have been obvious, considering the aforementioned rejection for the method claim 1 above.

Regarding independent claims 27 and 29, Levin discloses retrieving the in-band downstream or upstream ADSL channel frequency response  $H(f)$ , the noise  $N(f)$ , as measured at initialization and the signal to noise ratio  $SNR(f)$  measured at show time on a per bin basis (col. 4, lines 4-9, 15-19, 21-32, 51-63).

Regarding claims 28 and 30, Levin discloses a register for storing measurements of in-band downstream or upstream ADSL channel frequency response  $H(f)$ , the noise  $N(f)$ , measured at initialization and the signal to noise ratio  $SNR(f)$  measured at show time, respectively on a per bin basis (col. 2, lines 9-36; col. 8, lines 10-25); and a circuit for retrieving measurements of in-band downstream or upstream ADSL channel frequency response  $H(f)$ , the noise  $N(f)$  and the signal to noise ratio  $SNR(f)$  during show time (col. 8, lines 10-25).

As per claims 3, 6, 12 and 15, Levin discloses the channel is asymmetrical as in ADSL (col. 3, lines 51-51).

Regarding claims 5 and 14, Levin discloses the channel is non-overlapping (see col. 4, lines 15-31).

Regarding claims 7 and 16, Levin discloses the channel noise is  $N(f)$  (col. 4, lines 21-31).

Regarding claims 8 and 17, Levin discloses the channel frequency response is  $H(F)$  (col. 4, lines 51-60).

Regarding claims 9 and 18, Levin discloses the signal to noise measurement is  $SNR(f)$  (col. 4, lines 55-64; col. 5, lines 33-43).

Regarding claim

Regarding claims 21 and 25, Levin discloses the retrieved noise measurement was determined and stored at said CPE end during the initialization of said CPE end (col. 4, lines 20-34).

Regarding claims 22 and 26, Levin discloses the retrieved signal to noise measurement was determined and stored at said CPE end during show time at said CPE end (col. 8, lines 9-25).

*Claim Rejections - 35 USC § 103*

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 2, 4, 11, 13, are rejected under 35 U.S.C. 103(a) as being unpatentable over Levin (USP 6,130,882) in view of Strait (USP 6,266,367).

Regarding claims 2 and 11, Levin discloses all claim limitations of the claim in 1 and 10 above, except fails to explicitly disclose that the channel is symmetrical. Strait in a similar field of endeavor discloses symmetrical channel for a discrete multi-tone (DMT) transceiver system (col. 3, lines 50-64). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use symmetrical channel for transmission and reception of signals as taught by Strait in the circuit of Levin because it can facilitate and support identically same structure with the communication process.

Regarding claims 4 and 13, Levin discloses all limitations of the claim in 1 and 10, above, except fails to explicitly disclose the channel is overlapping. Strait in a similar field of

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endeavor discloses the channel is overlapping (col. 3, lines 35-48). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use the channel is overlapping as taught by Strait in the circuit of Levin because it can improve channel isolation and interference in signals.

### *Conclusion*

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US Patents:

Rudnick (US Pub. 2002/0131371) discloses a method to dynamically to change all MIB parameters of a wireless data network.

Gerszberg et al (USP 6,044,403) discloses a network server and video application server.

O'Toole et al (US: 6,373,860) shows a dynamically assigned voice and data channels in DSL.

Amrany et al (US 6,192,109) discloses apparatus and method for improved DSL communication.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Qutub Ghulamali whose telephone number is (571) 272-3014.

The examiner can normally be reached on Monday-Friday from 8:00AM - 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel can be reached on (571) 272-2988. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.



Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

QG.  
August 15, 2005.

A handwritten signature in black ink, appearing to read 'J. K. Patel', with a long horizontal stroke extending to the left.

**JAY K. PATEL**  
**SUPERVISORY PATENT EXAMINER**